

ABSTRACT OF THE DISCLOSURE

A catalyst for use in a hydrocarbon fuel processor for converting, or reforming, a hydrocarbon fuel such as diesel into a simple fuel, most especially hydrogen, comprises a rare earth metal (M) cobalt oxide ($MCoO_3$) having a perovskite structure. In one composition, the catalyst comprises a solid solution having the perovskite structure of the rare earth metal cobalt oxide, preferably lanthanum cobalt oxide ($LaCoO_3$), and an alkaline earth metal cobalt oxide, preferably strontium cobalt oxide ($SrCoO_3$). To further enhance the catalytic activity, the catalyst can additionally include a noble metal oxide such as platinum or ruthenium.

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